OPTIMAL JOINT REPLENISHMENT STRATEGY FOR A CENTRAL FACTORY WITH MULTIPLE SATELLITE FACTORIES USING SIMULATED ANNEALING

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ABSTRACT

Classical Joint replenishment problem itself is a NP-hard problem. When it is emplyed in supply chain, it further gets complicated. Very little research is available in the area. Available articles emphasis to develop an efficient and effective algorithm. In this paper, we develop a new algorithm based on Simulated annealing and compare with the algorithm given by (Hsu, 2009) for solving optimal joint replenishment decisions for a central factory with multiple satellite factories. Both the algorithm were tested on numerous test problems. We find that the proposed algorithm performed better in most of the cases.

Keywords: *Inventory control, Joint replenishment problem, Shipment, Transport requirement, Production capacity.*